Appln. No.: 10/731,600

Amendment dated: December 11, 2006

Reply to the Office Action of August 10, 2006

AMENDMENT(S) TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this

application:

Listing of Claims:

1. (Currently amended) An additive mixture for lubricant oils which comprises:

a) an amorphous overbased alkaline earth metal sulfonate in an amount sufficient to

provide a sedimentation rate of no more than about 0.005% per week at 70°C for at least 12

weeks; and,

b) at least one friction modifier selected from the group consisting of a polyalkylene

succinic anhydride, an overbased alkaline earth carboxylate, the reaction product of an

alkanolamine with a fatty acid or a fatty ester, the reaction product of thiodiglycol with a fatty

acid or a fatty ester and the reaction product of a dialkylene glycol with a fatty acid or a fatty

ester.

2. (Currently amended) The additive mixture of claim 1 wherein the overbased alkaline

earth metal sulfonate is an amorphous overbased calcium sulfonate having a TBN of above 350.

3. (Currently amended) The additive mixture of claim 2 wherein the overbased calcium

sulfonate is an amorphous overbased calcium sulfonate having has a particle size of no more than

about 30 nm.

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sulfonate is a crystalline overbased calcium sulfonate having a particle size of from at least about

4. (Currently amended) The additive mixture of claim 2 wherein the overbased calcium

50 nm to about 100 nm has a TBN of at least about 400.

5. (Original) The additive mixture of claim 1 wherein the friction modifier comprises

polyisobutylene succinic anhydride.

6. (Original) The additive mixture of claim 1 wherein the friction modifier comprises

calcium carboxylate.

7. (Original) The additive mixture of claim 1 wherein the friction modifier comprises

barium carboxylate.

8. (Original) The additive mixture of claim 1 wherein the friction modifier comprises the

reaction product of triethanolamine with a fatty acid or fatty acid ester.

9. (Currently amended) The additive mixture of claim 8 An additive mixture for

lubricant oils which comprises:

a) an overbased alkaline earth metal sulfonate; and,

b) a friction modifier which includes wherein the friction modifier comprises the reaction

product of triethanolamine with one or more of a fatty compound selected from the group

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consisting of methyl oleate, tall oil fatty acid, oleic acid, ricinoleic acid, isostearic acid, erucie

acid, and mixed oleic acid/stearic acid-and-iso-oleic acid.

10. (Original) The additive mixture of claim 1 wherein the friction modifier comprises

the reaction product of thiodiglycol with methyl oleate.

11. (Original) The additive mixture of claim 1 wherein the friction modifier comprises

the reaction product of a diethylene glycol with methyl oleate.

12. (Currently amended) A lubricant composition comprising:

a) a lubricant oil stock

b) an amorphous overbased alkaline earth metal sulfonate in an amount sufficient to

provide a sedimentation rate of no more than about 0.005% per week at 70°C for at least 12

weeks; and,

c) at least one friction modifier selected from the group consisting of a polyalkylene

succinic anhydride, an overbased alkaline earth carboxylate, the reaction product of an

alkanolamine with a fatty acid or a fatty ester, the reaction product of thiodiglycol with a fatty

acid or a fatty ester and the reaction product of a dialkylene glycol with a fatty acid or a fatty

ester.

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13. (Currently amended) The lubricant composition of claim 12 wherein the overbased alkaline earth <u>metal</u> sulfonate is an amorphous overbased calcium sulfonate having a particle size of no more than about 30 nm.

- 14. (Currently amended) The lubricant composition of claim [[12]] 13 wherein the amorphous overbased alkaline earth calcium sulfonate is a crystalline overbased calcium sulfonate having a particle size of from at least about 30 nm to about 50 nm has a TBN of at least about 400.
- 15. (Original) The lubricant composition of claim 12 wherein the friction modifier comprises the reaction product of triethanolamine with a fatty acid or fatty acid ester.
- 16. (Currently amended) The lubricant composition of claim 15 wherein the friction modifier comprises lubricant composition the reaction product of triethanolamine with one or more of a fatty compound selected from the group consisting of methyl oleate, tall oil fatty acid, oleic acid, ricinoleic acid, isostearic acid, erucic acid, mixed oleic acid/stearic acid and iso-oleic acid.
- 17. (Original) The lubricant composition of claim 12 wherein the friction modifier comprises the reaction product of thiodiglycol with methyl oleate.

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18. (Original) The lubricant composition of claim 12 wherein the friction modifier comprises the reaction product of diethylene glycol with methyl oleate.

- 19. (Currently amended) A method for storing a lubricant composition comprising the steps of:
 - a) combining with a lubricant stock an additive mixture including
- i) an <u>amorphous</u> overbased alkaline earth metal sulfonate <u>in an amount sufficient</u> to provide a sedimentation rate of no more than about 0.005% per week at 70°C for at least 12 weeks; and,
- ii) at least one friction modifier selected from the group consisting of a polyalkylene succinic anhydride, an overbased alkaline earth carboxylate, the reaction product of an alkanolamine with a fatty acid or a fatty acid ester, the reaction product of thiodiglycol with a fatty acid or a fatty ester and the reaction product of a dialkylene glycol with a fatty acid or a fatty ester, to provide a lubricant composition;
 - b) containing said lubricant composition within a vessel.
- 20. (Currently amended) The method of claim 19 wherein said <u>amorphous</u> overbased alkaline earth <u>metal</u> sulfonate is <u>an amorphous</u> overbased calcium sulfonate <u>having a TBN of at</u> <u>least about 400</u>, and the friction modifier is selected from the group consisting of the reaction product of triethanolamine with one or more of a fatty compound selected from the group consisting of methyl oleate, tall oil fatty acid, oleic acid, isostearic acid and mixed oleic

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acid/stearic acid, overbased barium carboxylate, overbased calcium carboxylate and the reaction

product of thiodiglycol with methyl oleate.

21. (New) The additive mixture of claim 9 wherein the amorphous overbased alkaline

earth metal sulfonate is an amorphous overbased calcium sulfonate and the friction modifier is

the reaction product of triethanolamine and a fatty compound selected from the group consisting

of methyl oleate, tall oil fatty acid and oleic acid.